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esting to know that some of the ground beetles attack the ripening strawberries in England, precisely as do similar insects with us, and it is especially interesting to learn that good results have been obtained by sinking small 'pudding-basins' in the soil between the rows of strawberries and baiting the beetles with lights and sugar water. It is also of interest to us to know that *Byturus tomentosus* attacks the raspberry in England precisely as does its congener, *B. unicolor*, in America.

The volume gives every promise of meeting a demand among the agricultural classes for just this sort of helpful literature, but since it was received we have been surprised and pained to learn that continuance has been made impossible from the fact that the Royal Board of Agriculture has refused to grant funds for publication of future volumes.

When we recall that, for almost a quarter of a century, the late Miss Eleanor A. Ormerod carried on this work and published annually her valuable and painstaking reports, all at her own private expense, from which this board of agriculture made constant and copious abstracts, not always with too scrupulous credit, and now this same body refuses to contribute the mere pittance to enable Professor Lankester and Mr. Theobald to continue the work, we are forced to admit that our British (no, English) cousins have some characteristics that we find it hard to comprehend. However, the apple growers of the United States, Canada and Tasmania, who keep up with the times, will doubtless continue to furnish England with apples at profitable prices, and, as they jingle good British gold in their pockets, they will mentally smile at the little bigness of the Royal Board of Agriculture, which body seems inclined to further assist by a continuation of the conditions most favorable for future commercial transactions in fruit, etc., between these countries and England.

F. M. WEBSTER.

SOCIETIES AND ACADEMIES.

THE CHEMICAL SOCIETY OF WASHINGTON.

A SPECIAL meeting of the Chemical Society of Washington was held on Wednesday

April 6, 1904, at eight o'clock P.M. in the chemical lecture hall of the Columbian University. The meeting was addressed by Dr. Charles Baskerville, of the University of North Carolina, who after being introduced by the president spoke upon the following subjects:

GEO. F. KUNZ and CHARLES BASKERVILLE: 'Kunzite and its Unique Properties.'

CHAS. BASKERVILLE and L. B. LOCKHART: 'Cause of Radio-activity.'

CHAS. BASKERVILLE: 'Thorium, Carolinium, Berzelium.'

The speaker exhibited specimens of kunzite and described some of its peculiar properties. In regard to the cause of radioactivity he called especial attention to the observation that all minerals which have the property of becoming phosphorescent under the action of radium rays, contain the element helium. The possibility was suggested that there is a relationship between the emanations of radioactive bodies and helium. In regard to the last subject on the program the speaker entered into greater detail, from both the historical and the experimental side of the question. He described the work which has occupied the attention of himself and a large number of assistants for the past ten years.

At the conclusion of the address some experiments were shown and specimens of radium of different degrees of activity were exhibited.

THE 150th regular meeting of the Chemical Society of Washington was held Thursday evening, April 14, 1904, in the assembly hall of the Cosmos Club.

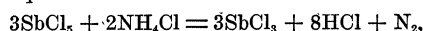
The first paper on the program, entitled 'The Feldspars—The Relation between their Composition and Certain Physical Properties,' was presented by Dr. E. T. Allen. An abstract of this paper has already been furnished SCIENCE for publication.

The second paper on the program, entitled 'Solubility of Gypsum in Solutions of Potassium Sulphate and Sodium Sulphate,' by F. K. Cameron and J. F. Breazeale, was presented by Dr. Cameron. The authors showed that at 25° C. with increasing concentration of potassium sulphate the solubility of calcium sulphate at first falls from 2.126 gms. CaSO₄,

per liter to about 1.42 gms. CaSO_4 per liter in a solution containing about 15 gms. K_2SO_4 per liter, and then gradually rises to 1.585 gms. per liter in a solution containing 32 gms. K_2SO_4 per liter. This latter point is a triple point where a new solid phase syngenite ($\text{CaSO}_4 \cdot \text{K}_2\text{SO}_4 \cdot \text{H}_2\text{O}$) separates. As the concentration with respect to potassium sulphate still increases, no gypsum remains as solid phase but only syngenite, the amount of calcium sulphate in solution steadily decreasing. The solubility curves were determined, starting both with gypsum and with syngenite, good agreements being obtained. The position of the triple point was redetermined by the authors by using the procedure of van't Hoff and Wilson who had found a somewhat higher concentration with respect to calcium sulphate. The results confirm those obtained by extrapolation on the solubility curve. The solubility curve for calcium sulphate and sodium sulphate previously determined at 25°C . by Cameron and Seidell was confirmed. It is similar to the calcium sulphate, potassium sulphate curve, but there is no separation of a double salt at the temperature employed.

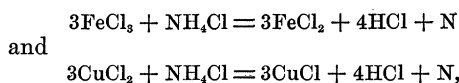
The last paper on the program, entitled 'Ammonium Chloride as a Reagent for Indicating Dissociation,' was presented by Dr. Peter Fireman.

In a former communication the author showed that when antimony pentachloride and ammonium chloride are heated in a sealed tube they act upon one another according to this equation:



while tin tetrachloride and titanium tetrachloride remain unchanged when similarly treated with sal ammoniac. The different behavior of the chlorides was ascribed to the fact that antimonie chloride readily dissociates on heating while the other two metallic chlorides do not.

In his new communication he gave the results of experiments by which he tested the validity of this explanation. The hypothesis was fully corroborated. He found that ferric chloride and cupric chloride which are known to dissociate behave like antimonie chloride, the reaction being:



while mercuric chloride, a non-dissociating halide remains unchanged like stannic chloride or titanium tetrachloride.

A. SEIDELL,
Secretary.

THE SCIENCE CLUB OF THE UNIVERSITY OF MISSISSIPPI.

THE regular monthly meeting of the club was held April 15, 1904, in the chemical lecture room. The leader for the evening, Professor R. W. Jones, presented 'Some Thoughts in Reference to the Water Supplies of Mississippi.' A brief account of the history of water analysis was given, showing that, while in earlier years stress was laid upon the mineral ingredients, to-day the emphasis is placed upon the organic and sanitary analyses. In passing, the fact was noted that the value of mineral springs had long been greatly exaggerated. The Michigan standard of the purity of drinking water was discussed by the lecturer. The speaker then called attention to some interesting and valuable results of his own analyses of water from deep wells, artesian wells and streams throughout the state. Special reference was made to the geological formations of the middle-eastern section of the state, affording four different water-horizons, each yielding water of excellent quality.

ALFRED HUME,
Secretary.

THE SCIENCE CLUB OF UNIVERSITY OF WISCONSIN.

THE sixth meeting of the club for the year was held Tuesday, March 22, in the physical lecture room of Science Hall. The first paper of the evening was by R. A. Harper on 'The Organization of the Cell as shown in Certain Mildews.' The paper discussed the development of the fruiting bodies of certain mildews from the standpoint of the structure and behavior of their nuclei in both fusing and dividing cells. A permanent polar organization of the nucleus and continuous connection of chromatin and central body are found in these fungi.

The second paper, by A. H. Taylor, on 'Resonance in Aerial Systems,' was a discussion by the author of some recent advances in wireless telegraphy; it was illustrated and showed the fourfold tuning necessary for the transmission of large amounts of energy. The sender, the two aerials and the receiver were successively attuned, enough energy being transmitted several meters to light three small incandescent lamps.

VICTOR LENHER,
Secretary.

THE ELISHA MITCHELL SCIENTIFIC SOCIETY OF
THE UNIVERSITY OF NORTH CAROLINA.

THE 154th meeting was held in the Physics Lecture Room, Tuesday evening, April 12. The following papers were presented:

PROFESSOR C. L. RAPER: 'The World's Production and Consumption of Coal.'

PROFESSOR H. V. WILSON: 'Grafting in Vertebrate Embryos.'

PROFESSOR R. H. WHITEHEAD: 'Protozoa in Smallpox.'

A. S. WHEELER,
Recording Secretary.

DISCUSSION AND CORRESPONDENCE.

SCIENCE, NATURE AND CRITICISM.

THERE appeared in a recent number of SCIENCE a somewhat unscientifically savage attack upon William J. Long and his books by Mr. William Morton Wheeler. The attack, which was ostensibly made on scientific grounds, was speedily followed by another and more personal one, written by Mr. Frank M. Chapman, and by a third by Mr. W. F. Ganong, who, on the principle that 'any stick will do to beat a dog with,' sent in an old criticism that was first published and answered in a St. John newspaper. The first object of the present article is to examine these attacks, and see what truth underlies them.

Very obviously there are two questions here, a question of animals and a question of animus. With the latter we have nothing whatever to do, except to deplore it. The original *Atlantic* attack upon the books in question, which was quoted and commended, can hardly be regarded as scientific, so far as this means a calm, dispassionate sifting of facts and evi-

dence; and the writers, in following their leader, have been, perhaps, too much influenced by the great Frenchman's maxim that 'among wolves one must howl a little.' But, laying all that aside, the readers of SCIENCE have undoubtedly asked, how much truth is there in these animal stories, which have not only been called in question but have been denounced as falsehoods and inventions?

I take the most incredible of all, the case of the woodcock that set his broken leg in a clay cast, which was ridiculed by Mr. Wheeler in SCIENCE of February 26. Now, forgetting all the ridicule and misrepresentation and facetiousness of the article, what evidence have we for believing the story as recorded? For myself, having seen the incident, it has passed beyond the realm of opinion or belief into the realm of fact. Nevertheless, I pass over this, and also over the strong supplementary testimony of my friend, who might be considered as partial, to submit other evidence of which there can be no reasonable doubt as to its truth or disinterestedness.

Soon after the surgery article first appeared in *The Outlook*, the editors of that magazine received a letter from a lady in Galion, Ohio, who told of finding a woodcock that had set its broken leg in a clay cast in a way precisely similar to that recorded in the article on 'Animal Surgery.' When the attack of Mr. Wheeler, in SCIENCE, was called to my attention, I wrote to the lady, asking her to send me any supplementary details of her observation and the names of any other reputable people who might know of the circumstances. Here is the result—and I have submitted all documents and letters to the editor of SCIENCE that there may be no question as to their genuineness:

My dear Dr. Long:

The circumstances in regard to the woodcock are just as my father writes (see following letter), but I send a few facts in addition to those he has given. A short time before my father shot the bird we had read that the woodcock can put its own leg into a clay cast, but this hardly seemed credible. I was cleaning the game and had cut off the legs of the woodcock before I noticed that one leg had upon it a lump of dried mud. Immediately what I had read flashed through my